Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
Qwest Communications International Inc.'s Consolidated Application for Authority to Provide In-Region, InterLATA Services in New Mexico, Oregon and South Dakota	)	WC Docket No. 03-11

REPLY COMMENTS OF AT&T CORP.

David W. Carpenter
SIDLEY AUSTIN BROWN & WOOD
Bank One Plaza
10 South Dearborn Street
Chicago, Illinois 60603
(312) 853-7000

Mark C. Rosenblum
Lawrence J. Lafaro
Richard A. Rocchini
One AT&T Way
Room 3A227
Bedminster, NJ 07921
(908) 532-1843

David L. Lawson
Mark D. Schneider
Jacqueline G. Cooper
James P. Young
Christopher T. Shenk
SIDLEY AUSTIN BROWN & WOOD, L.L.P.
1501 K St., N.W.
Washington, D.C. 20005
(202) 736-8000

Mary B. Tribby
AT&T Communications of the Mountain States, Inc.
1875 Lawrence Street, Room 1575
Denver, Colorado 80202
(303) 298-6163

Attorneys for AT&T Corp.

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REPLY COMMENTS OF AT&T CORP.

AT&T Corp. ("AT&T") respectfully submits these reply comments in opposition to Qwest's application for authorization to provide in-region, interLATA services in New Mexico, Oregon, and South Dakota.

INTRODUCTION AND SUMMARY

The undisputed fact is that Qwest faces *no* wireline competition for residential customers in New Mexico. As the comments confirm, this should be the beginning and end of the Commission's "Track A" analysis. Qwest cannot satisfy the section 271 "Track A" requirement unless it can show actual "commercial alternatives" to its residential services. There are none in New Mexico.

Qwest urges the Commission to lower the Track A bar to the ground so that Qwest and all future applicants can walk over it. According to Qwest, the Commission can find that Track A is satisfied by the existence of *resale* of Qwest services. That is not an option. As the Commission has recognized, the plain text of the statute requires that Qwest show the existence of competitors that either "exclusively" or "predominantly" provide service "over their *own*

telephone exchange facilities."[1] Moreover, the particular resale services cited by Qwest are not services that compete in any meaningful way with those offered by Qwest; rather, they are options of last resort for customers that Qwest refuses to serve.

Qwest also insists that the Commission can base a finding of Track A compliance on the existence of a PCS offering called "Cricket," but offers no credible support for this facially incredible claim. The bare results of the Qwest-sponsored "survey" of Cricket users, and Qwest's convoluted logic in defending them, make plain the biased and hypothetical nature of the questions posed and the ambiguous nature of the responses given. Moreover, the Commission has expressly held that surveys can be relied upon in this manner only if the results are demonstrated through "statistical analysis" to be meaningful.[2] Qwest has not utilized any legitimate statistical techniques to correct or at least address the flaws in its study.

Qwest has failed to provide any hard evidence that New Mexico consumers consider Cricket a substitute for Qwest's wireline service, because none exists. The Cricket service does not offer the same quality and features, and it is targeted at purchasers that are almost entirely distinct from Qwest's customer base – teenagers and young adults who have not yet established permanent residences of their own and could not be expected to buy wireline services even if they did not subscribe to Cricket.

As the Department of Justice ("DOJ") has concluded, no reasonable "market analysis" could treat the Cricket service and Qwest's wireline service as substitutes.[3] No decisionmaker could reasonably expect even the statewide availability of the specialized Cricket service to constrain Qwest's market power, and under well-settled economic and antitrust principles, Cricket and Qwest's wireline local service cannot be considered commercially interchangeable.

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[1] 47 U.S.C. § 271(c)(1)(A) (emphasis added).

[2] *Louisiana II 271 Order* ¶ 38.

[3] *See* DOJ Evaluation at 10-11.

The DOJ takes great care to distance itself from any such suggestion, and the Commission should do likewise.

Indeed, existing Commission precedent is clear that wireless service can be considered a "commercial alternative" to wireline local telephone service only if there is established cross-elasticity of demand between the two services.[4] And, if, unlike the DOJ, the Commission were to accept Qwest's absurd claim that Cricket service is a substitute for traditional wireline local service, this could have profound consequences outside the section 271 context. Wireless carriers could be expected to claim that any such Commission finding would call into question existing wireless spectrum caps. Likewise, in a merger involving a competitive local carrier and an incumbent local carrier, the parties could argue that the elimination of the competition caused by the merger could not be substantial in light of PCS "competition."

The Commission should also reject this application because Qwest is not providing interconnection "in accordance with the requirements of sections 251(c)(2) and 252(d)(1)" and therefore does not satisfy Checklist Item 1. Specifically, Qwest does not provide appropriate reciprocal compensation arrangements in New Mexico because it charges exchange access rates for certain indisputably local traffic that it deems "transiting" traffic.[5] Qwest has attempted to brush off this failure to comply with the Act as "a two-party dispute over the interpretation of a specific interconnection agreement between AT&T and Qwest," asserting that "resolution of such two-party interconnection disputes is beyond the scope of Section 271 proceedings."[6] This argument proves too much. The mere fact that a dispute has arisen between parties to an interconnection agreement cannot be said to put the matter beyond the reach of section 271, because interconnection agreements are the mechanism through which Qwest satisfies *all* of its

[4] *Louisiana II 271 Order* ¶ 33.

[5] AT&T Comments at 27-28.

[6] *Qwest 2/14 Ex Parte* at 2.

core section 251 obligations, including its obligation under section 251(c)(2) to provide interconnection.

Further, this is not a matter of interpreting the interconnection agreement but of whether Qwest may lawfully impose above-cost rates for the transiting services it provides. Qwest acknowledges that it is obligated to provide transiting, but insists that it is entitled to impose access charges for such services. This argument is unavailing. The Commission has long held that the transport and termination of all local calls – and there is no dispute that the calls at issue are local – is governed by the reciprocal compensation obligations of Section 251(b)(5).[7] Indeed, more recently, the Commission has appropriately recognized that these reciprocal compensation obligations apply to *all* telecommunications – local and non-local alike – that Section 251(g) does not "grandfather" for different treatment.[8] Section 252(d)(2) specifies that, "for purposes of compliance by an incumbent local exchange carrier with section 251(b)(5)," a state commission cannot find that the terms and conditions of reciprocal compensation are just and reasonable unless the ILEC's charges for transport and termination are based on incremental cost. As the Commission has repeatedly affirmed, this means that reciprocal compensation charges must be based on TELRIC.[9]

Accordingly, under any permissible reading of the Communications Act, compensation for the transport and termination of the indisputably local traffic at issue here is governed by section 251(b)(5), which, pursuant to section 252(d)(2), requires ILEC rates to be based on

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[7] 47 U.S.C. § 251(b)(5); *ISP-Bound Traffic Order* ¶ 31 (Section 251(b)(5) applies to a LEC's transport and termination of any telecommunications); *see also Local Competition Order* ¶ 1034 (even under previous, now superceded interpretation, section 251(b)(5) reciprocal compensation obligations applied "to traffic that originates and terminates within a local area").

[8] *See ISP-Bound Traffic Order* ¶ 31.

[9] *See Local Competition Order* ¶¶ 1054-55. Because Section 251(c)(2) also requires transiting (*i.e.*, "interconnection . . . for the transmission and routing of telephone exchange service"), Section 252(d)(1) provides an independent ground for TELRIC pricing of transiting services.

TELRIC. Under *no* theory could the statute be read to authorize Qwest to assess interstate *access* charges for local transiting traffic.

I. QWEST CANNOT SATISFY TRACK A WITH RESPECT TO NEW MEXICO.

The comments of carriers and the New Mexico Commission confirm that there is no legitimate basis to find that Qwest has satisfied Track A. To satisfy Track A, Qwest bears the burden of proving that there is "an actual commercial alternative" to its residential wireline service.[10] Here, Qwest's own data conclusively confirm that there are *no facilities-based wireline alternatives* to Qwest's New Mexico services. Qwest therefore attempts to shoulder its burden by pointing to "evidence" of "competition" from non-wireline services. The evidence is clearly inadequate to satisfy Track A and, if relied upon by the Commission, would effectively gut this statutory safeguard.

Qwest first invites the Commission to rely on resale services as a substitute for facilities-based wireline services to satisfy Track A. But that proposal is unlawful. As demonstrated by the comments, the text of Track A makes clear that a competitive service must be provided "either exclusively or predominantly over [the competitor's] own telephone service facilities."[11] Resale service obviously fails this statutory test because resale services are provided exclusively over Qwest facilities.[12] In any event, none of the resale services offered in New Mexico are "commercial alternatives" to Qwest's local telephone service. Resale in New Mexico is extremely limited and rapidly declining.[13] And the few remaining residential resale

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[10] *Qwest 9-State 271 Order* ¶ 20 (citation omitted).

[11] 47 U.S.C. § 271(c)(1)(A); WorldCom Comments at 4; *see also* AT&T Comments at 11-13.

[12] *See* AT&T Comments at 11-12.

[13] *See* AT&T Comments at 13-14; WorldCom Comments at 3 ("the raw number of residential resale customers in New Mexico is insignificant, and has been steadily decreasing"); New Mexico Comments at 20-21.

lines in New Mexico are served for the most part by a single carrier that does not compete with Qwest. As explained by the New Mexico Commission, this carrier, Comm South, "targets those customers who have been disconnected by Qwest for nonpayment" and offers them prepaid local service at a premium price and does not offer long distance.[14] Customers do not purchase service from Comm South as an alternative to Qwest; they purchase the higher priced, lower quality, service because they *cannot* purchase service from Qwest.[15] The New Mexico Commission has explained that the remaining New Mexico resale providers offer high-priced *prepaid* local service plans as well.[16]

In the alternative, Qwest claims that a Qwest-sponsored survey demonstrates that the "Cricket" PCS service is an actual commercial alternative to the wireline local service Qwest provides to more than a million New Mexico customers. This argument should be rejected out of hand. Cricket's wireless service is available in only two New Mexico cities, and the future availability of even that very limited service is uncertain given the perilous financial condition of Leap Wireless, the company that offers the "Cricket" service. Moreover, for the vast majority of customers, Cricket's wireless service simply cannot be considered a legitimate, commercial alternative to Qwest's wireline service, because it does not provide critical E-911 service, local number portability, or multiple handset or broadband capabilities. Indeed, it is well established

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[14] New Mexico Comments at 21-22.

[15] *Id.* at 22 (noting that "that Comm South is not seeking or striving for local exchange customers for whom Qwest is vying, and is not competing with Qwest for these customers in any real sense").

[16] *Id.* ("Only Premier Communications Group and Servisense.Com offer post-paid services and long distance calling in New Mexico; between these carriers, Servicesense.Com serves a single residential customer in the state"); *see also* WorldCom Comments at 3 ("[A] review of the websites of the resellers identified by Qwest indicates that they largely offer a prepaid product targeted to a niche market consisting of customers who have been disconnected by Qwest for failure to pay or some other reason").

that two products or services generally cannot be considered economically meaningful substitutes where there are such substantial quality differences between them.[17]

Qwest nonetheless presents its survey as proof that New Mexico customers consider Cricket's wireless service to be a substitute for Qwest's wireline local service. But conspicuously absent from Qwest's survey is any direct question relating to that issue. The comments make it clear that Qwest chose to rely on purposefully vague hypothetical questions.[18] For example, rather than asking respondents a simple direct question, *e.g.*, "have you cancelled your wireline service after purchasing the Cricket service?," Qwest instead asked the following hypothetical question: "Some Cricket customers *might* decide that Cricket service does away with the need to have trad[itional] wire line phone service in their home. As a result, they terminate their wire line phone services from the local phone co[mpany]. Does this apply to you?"[19] It is impossible to interpret meaningfully a "yes" answer to this hypothetical question – even assuming that the respondent was a telecommunications company lawyer or employee or otherwise had some idea what a "wireline" service might be.[20]

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[17] *See, e.g.*, *Brown Shoe Co.* v. *United States*, 370 U.S. 294, 325 (1962) (one determinant of whether there is "reasonable interchangeability . . . between the product itself and substitutes for it" is "the product's peculiar characteristics and uses").

[18] WorldCom Comments at 5-6; New Mexico Comments at 26; *see also* AT&T Comments at 20-21.

[19] *Qwest 2/13 Ex Parte*, Attachment 1 at 1 (emphasis added).

[20] In an ex parte letter filed one day before these reply comments, Qwest filed new evidence with the Commission attempting to justify the facially flawed questions used in the survey. Qwest first states that the confusing, hypothetical questions were used to "avoid questions that could be construed as set ups for a sales pitch." *Qwest 2/25 Ex Parte* at 2. That is nonsense. If the goal was to assure customers that the call was not a sales pitch, Qwest could have simply begun each call by expressly stating "this is not a sales call, this is a survey" – as those making survey calls routinely do. Qwest's justification of its confusing hypothetical questions as attempts to avoid "leading" questions is equally baseless. *Id.* If the goal had been to avoid "leading" respondents, Qwest would have asked direct questions, such as "Have you disconnected your Qwest local service since you purchased the Cricket service?" Indeed, the only possible explanation for

It is well-recognized by the scientific community that the use of hypothetical questions in a survey seriously undermines the survey results. For example, Dr. Beverly B. Wiggins, Associate Director for Research Development, Institute for Research in Social Science explains that a "good" survey design should "[b]eware of hypothetical questions." *See* Attachment A, at 2. Likewise, the Guide for Managing for Quality warns surveyers to "[a]void hypothetical questions – instead, focus on the present." *See* Attachment B, at 1. And Professors Gavan J. Fitzsimmons and Baba Shiv have published a paper in the Journal of Consumer Research entitled "Non-Conscious and Contaminative Effects of Hypothetical Questions on Subsequent Decisionmaking." *See* Attachment C.

Given the confusing hypothetical nature of the survey questions, it is not surprising that the survey produced hopelessly inconsistent answers. For example, 89 percent of the respondents that answered "yes" to survey question 3 – which Qwest treats as an indication that these respondents had canceled wireline service *after* purchasing Cricket's service – also answered "yes" to survey question 2, which, according to Qwest means that the respondent had not purchased a wireline phone.[21] Similarly, 590 of the survey respondents answered "yes" to question 4, which according to Qwest means that they had cancelled phone service on a second line.[22] Of these 590, however, 438 also answered "yes" to question 5, which according to Qwest means that they had never added a second line to begin with.[23] These and other responses, aptly characterized as "nonsensical" by the New Mexico commission,[24] make it clear that the

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stating questions in the form "other people might do this, does this apply to you" is that Qwest *was* trying to lead the respondents to "yes" answers.

[21] *Qwest 2/13 Ex Parte*, Attachment 2 at 1; New Mexico Comments at 26.

[22] *Qwest 2/13 Ex Parte*, Attachment 2 at 1.

[23] *Id.*

[24] New Mexico Comments at 26.

respondents either did not understand the questions, or that they answered them based on hypothetical behavior rather than their own actual behavior. The answers to these hypothetical questions fail to demonstrate that the Cricket PCS service is an actual commercial alternative to Qwest's wireline service. There can be no non-arbitrary finding to the contrary.[25]

The survey did ask one question that was not hypothetical -- "Do you have wireline local telephone service in your home?" Because 36 percent of the respondents answered "no" to this question, Qwest claims that New Mexico residential local telephone consumers view Cricket as a substitute for Qwest's wireline local service. The fact that some Cricket subscribers do not have wireline telephone service does not remotely demonstrate that those subscribers are substituting (or would substitute) Cricket service for Qwest's wireline services. To the contrary, an equally likely conclusion from this data is that Cricket targets customers who have not yet established permanent residences of their own and would not buy wireline service even if they did not subscribe to Cricket. Of course, Qwest could have shed light on which explanation for the respondent's decision is more likely by asking the obvious follow-up question: "If you don't have wireline service, why not?" As Qwest is well aware, the answers to that question would have confirmed that customers do not view Cricket as a substitute for Qwest's wireline services.

As the survey data make clear, the Cricket service appeals to a distinct set of customers that are different than those who purchase wireline services. Over half of the respondents were teenagers or young adults, many of whom likely live in dorm rooms, fraternity

[25] The New Mexico Commission noted numerous other criticisms of the survey, including that it "was an 'agree/disagree' survey type, which is commonly perceived as being unreliable," that Qwest "fail[ed] to perform a pre-test of the survey" to refine the questions and eliminate problems, and that "[t]he survey was entirely result driven." New Mexico Comments at 26-28.

houses or with their parents, and would not purchase wireline services in the first place.[26] In addition, some customers may purchase Cricket's service due to historical credit problems with Qwest. But the bottom line is that there is simply no credible evidence that Qwest's wireline customers view Cricket as an actual commercial alternative to their wireline local telephone service.[27]

Moreover, even if the survey responses could be said to suggest the possibility of some substitution, Qwest's Track A Claim would fail, because Qwest "fails to provide a statistical analysis of the . . . study data" that could provide any confidence that the conflicting responses reflect anything other than respondents' understandable confusion.[28] In rejecting BellSouth's second section 271 application for Louisiana, the Commission explained that a survey purporting to show PCS substitution for wireline service must provide "confidence intervals or other statistical measures" and that such "statistical analysis is *critical* to demonstrating the statistical significance of [the survey] data."[29]

The only statistical analysis offered by Qwest is an assertion by a Qwest witness that the size of the survey sample was sufficiently large to be representative of all Cricket customers. Even if that is true – and it is not clear that it is, because Qwest's witness does not provide the underlying calculations – that analysis does not address the real problem with Qwest's survey. Qwest provides *no statistical analysis* that explains or removes the uncertainty created by the obvious contradictions in many answers to the survey questions. The only thing

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[26] AT&T Comments at 16, 19; *see also Qwest 2/13 Ex Parte* (noting that 51 percent of the survey respondents were between the ages of 18 and 29).

[27] *See, e.g., Brown Shoe Co.*, 370 U.S. at 325 (noting that products may not be substitutes where they have "distinct customers").

[28] *Louisiana II 271 Order* ¶ 38.

[29] *Id.* (emphasis added).

that Qwest's "statistical analysis" could show is that Cricket customers would have provided the same confused and inconsistent answers to the survey questions as did the customers in the sample. On this record, it is simply not possible for the Commission to base a finding that the Cricket service is an actual commercial alternative on the survey results.

In light of this analysis, it is unsurprising that the Department of Justice Evaluation confirms both that local markets in New Mexico are not "fully and irreversibly opened to competition,"[30] and that Qwest does not satisfy the basic section 271 Track A requirement in New Mexico. "In assessing whether the local markets in a state are fully and irreversibly open to competition, the Department looks first to the actual entry in a market."[31] The DOJ confirms that in New Mexico there has been *no* "competition for residential subscribers using CLECs' own wireline facilities or unbundled elements obtained from Qwest."[32] As the DOJ recognizes, under existing Commission precedent, this absolute lack of competition means that Qwest's application fails to meet the Track A requirement and should be rejected.[33]

The DOJ Evaluation likewise makes clear that it would be arbitrary for the Commission to reverse course and hold that Qwest can satisfy Track A on the basis of

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[30] DOJ Evaluation at 2

[31] *Id.* at 6.

[32] *Id.* at 9.

[33] *Id.* at 10. Nor does a carrier's intent to enter a market at some future date provide any basis for Track A approval. In disclosing that it intends to "enter the New Mexico local residential market in March," WorldCom correctly observes that the Commission cannot rely on future contingencies to assess whether Track A is satisfied. WorldCom Comments at 6, 7; *see* Updated Filing Requirements for Bell Operating Company Applications Under Section 271 of the Communications Act, DA 01-734, 17 F.C.C.R. 19056, at 3 (2001). In any event, WorldCom's intentions hardly provide a basis for the Commission to conclude that WorldCom *actually* will provide service to a *de minimis* number of residential customers in New Mexico. A potential entrant's self-described business plans provide no assurance that even *de minimis* entry actually will occur. Given the current volatility and uncertainty in the telecommunications industry in general, and WorldCom's insolvency in particular, the Commission simply cannot rely on

speculation regarding PCS substitution. First, as the DOJ observes, the "New Mexico PRC found 'significant problems'" with Qwest's "survey" used to establish the number of Leap Wireless customers that have "substitute[d]" PCS for wireline services.[34] Second, and more fundamentally, the DOJ Evaluation undercuts the notion that Cricket PCS can be properly considered. As the DOJ notes, the Commission's analysis of Track A issues in the past has been "informed by traditional principles of market analysis."[35] The DOJ Evaluation emphasizes that any finding by the Commission that assumes that Leap's "specialized" PCS is a viable substitute for traditional wireline service would run contrary to basic antitrust and economic theory, and would not be followed by the DOJ. As explained by the DOJ, local "competition" from a PCS provider is unlikely to be sufficient to prevent a dominant local wireline carrier such as Qwest from exercising market power and imposing above-cost rates, because the lion's share of customers do not view PCS as a substitute for the services that they are currently receiving from their wireline local carrier.[36]

As the DOJ Evaluation makes clear, the only way the Commission can find that Qwest has satisfied Track A in New Mexico is to reverse its prior precedents, ignore the views of the DOJ, abandon any serious competitive analysis, and divorce its Track A analysis from the statute's plain language and purposes.[37]

WorldCom's intentions to conclude that Track A is satisfied.

[34] DOJ Evaluation at 9 n.36.

[35] *Id.* at 10 (citing *Louisiana II 271 Order* ¶¶ 31-34). In the *Louisiana II 271 Order* (¶ 32), the Commission determined that PCS usage would be considered relevant only to the extent the BOC provided evidence that showed actual "competition between PCS and wireline local telephone service" – *i.e.*, "that customers are actually subscribing to PCS in lieu of wireline service at a particular price." *See also id.* ¶ 33 (stressing that PCS can be considered a substitute for wireline service only where there are demonstrated cross-elasticities of demand).

[36] DOJ Evaluation at 11.

[37] The Department of Justice suggests in a footnote that Qwest might be able to satisfy Track B

II. QWEST FAILS TO SATISFY ITS BURDEN OF PROVING THAT THE APPLICATION COMPLIES WITH THE COMPETITIVE CHECKLIST.

AT&T demonstrated in its opening comments that Qwest fails to comply with the checklist in significant respects. Qwest charges unlawful "entrance facility" charges for certain interconnection and transport links connecting CLEC switches to the nearest Qwest switch.[38] Qwest's recent *ex parte* letter addressing these issues simply repeats, almost verbatim, the points it made in previous Qwest 271 proceedings, without addressing any of the new evidence AT&T submitted in its comments.[39] And Qwest does not provide adequate loop qualification information in Oregon.[40]

AT&T demonstrated in its opening comments that Qwest does not provide appropriate reciprocal compensation arrangements in New Mexico because it has begun unilaterally to charge exchange access rates for certain indisputably local traffic that it deems "transiting" traffic.[41] In its recent *ex parte* letter, Qwest characterizes this issue as "a two-party dispute over the interpretation of a specific interconnection agreement between AT&T and Qwest," asserting that "resolution of such two-party interconnection disputes is beyond the scope of Section 271 proceedings."[42] Qwest's attempt to characterize this as a mere contract dispute is

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in New Mexico. *Id.* at 10-11 n.42. As DOJ acknowledges, however, "Qwest applied for Section 271 authority pursuant to Track A" and would have to file a new application and create an appropriate record in order to attempt to proceed under Track B. *Id.*

[38] AT&T Comments at 23-27.

[39] *Qwest 2/14 Ex Parte*.

[40] AT&T Comments at 29-30.

[41] *Id.* at 27-28.

[42] *Qwest 2/14 Ex Parte* at 2. AT&T demonstrated in its Comments (at 28-29) that Qwest has no colorable claim that the AT&T/Qwest interconnection agreement permits Qwest to charge interstate access rates for this local traffic. In its *2/14 Ex Parte* (at 2), Qwest asserts that AT&T is required to deliver transiting traffic over separate trunk groups, and further asserts that there is a dispute over "the proper rates that Qwest may apply when AT&T improperly commingles such

unavailing. The access rates charged by Qwest for this local traffic are patently unlawful under the Act and the Commission's orders. Qwest, therefore, does not provide interconnection "in accordance with the requirements of sections 251(c)(2) and 252(d)(1)" and thus fails to satisfy Checklist Item 1.

Qwest does not deny that it is obligated to provide "transiting," but instead maintains that it may impose access charges for such services. Both the Act and the Commission's orders, however, make clear that ILECs must provide "transiting" services at TELRIC-based rates. Qwest is obligated to "interconnect directly or indirectly with the facilities and equipment of other telecommunications carriers,"[43] and ILECs have an independent duty to provide interconnection "for the transmission and routing of telephone exchange service."[44] Each of these statutory duties extends to transiting: section 251(a) explicitly encompasses "indirect" interconnection, and section 251(c)(2) extends to the "transmission and routing of telephone exchange service," which by its terms is not limited to calls involving only two carriers.[45]

Moreover, the Commission has always recognized that the transport and termination of *local* calls is governed by the reciprocal compensation obligations of Section

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transit traffic and other local traffic on switched access trunks." Qwest does not cite to any provision of the agreement that permits Qwest to charge access rates under such circumstances, however, and the only applicable provision (§ 5.6) expressly states that Qwest is to charge TELRIC rates for local transiting traffic.

[43] *See* 47 U.S.C. § 251(a); *see also Local Competition Order* ¶ 997.

[44] 47 U.S.C. § 251(c)(2).

[45] Transiting is also mandated by Section 251(c)(2)(B), which obligates ILECs to allow interconnection at any technically feasible point. By definition, interconnection at the tandem switch provides access to the full tandem switching functionality – including access to subtending end offices, even if not owned by the tandem provider. In other words, an ILEC must provide access to any office that subtends one of its tandems even if that end office is operated by another LEC.

251(b)(5). More recently, the Commission has conceded that these reciprocal compensation obligations apply to *all* telecommunications – local and non-local alike – that Section 251(g) does not "grandfather" for different treatment.[46] Section 252(d)(2) specifies that, "for purposes of compliance by an incumbent local exchange carrier with section 251(b)(5)," a state commission cannot find that the terms and conditions of reciprocal compensation are just and reasonable unless the ILEC's charges for transport and termination are based on incremental cost. The Commission has repeatedly affirmed that this means that reciprocal compensation charges must be based on TELRIC.[47]

It is undisputed that the calls at issue are local calls – *i.e.*, they originate and terminate within the same local calling area. Accordingly, under any conceivable reading of the statute, compensation for the transport and termination of such calls is governed by Section 251(b)(5), which (under Section 252(d)(2)) requires ILEC rates to be based on TELRIC. Under *no* theory could the statute be read to authorize Qwest to assess interstate *access* charges for local transiting traffic. Although the Commission claims to have left interstate access charges for long distance services intact pursuant to the grandfathering clause of Section 251(g),[48] Section 251(g)

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[46] 47 U.S.C. § 251(b)(5); *ISP-Bound Traffic Order* ¶ 31 (Section 251(b)(5) applies to a LEC's transport and termination of any telecommunications); *see also Local Competition Order* ¶ 1034 (even under previous, now superseded interpretation, section 251(b)(5) reciprocal compensation obligations applied "to traffic that originates and terminates within a local area").

[47] *See Local Competition Order* ¶¶ 1054-55. Because Section 251(c)(2) also requires transiting (*i.e.*, "interconnection . . . for the transmission and routing of telephone exchange service"), Section 252(d)(1) provides an independent ground for TELRIC pricing of transiting services. In the *Virginia Arbitration Decision* (cited by Qwest in its recent *ex parte* letter), the Wireline Competition Bureau believed that the Commission had never expressly addressed the question whether Section 251(c)(2) requires an incumbent to provide transiting, and it declined to offer a clarification because it was acting pursuant to delegated authority. *Virginia Arbitration Decision* ¶ 117; *see Qwest 2/14 Ex Parte* at 2. Thus, Qwest does not deny that it is obligated to provide transiting, and the *Virginia Arbitration Decision* provides absolutely no support for the notion that Qwest may assess access charges for the transiting services that it is obligated to provide.

[48] *See Local Competition Order* ¶ 1034.

by its terms does not apply to these *local* calls (and, in all events, there were no such access charges for local transiting prior to the 1996 Act that could even theoretically be grandfathered).[49]

Under Qwest's view, AT&T would pay Qwest TELRIC rates for transport and termination of calls to a Qwest customer, but if another CLEC happened to become that called party's local carrier, AT&T would suddenly have to pay Qwest access charges for the same transport and termination of local calls to that same customer. Indeed, under such a scheme, *all* local calls between customers of two new entrants would be singled out for uniquely discriminatory treatment. The originating carrier would be forced either to pay exorbitant access charges to the incumbent for transiting services or build separate interconnection trunks to the CLEC, which would almost certainly be grossly underutilized and inefficient. And these inequalities would grow as the new entrants' businesses grow; the larger a foothold new entrants gain in the local market, the more likely it is that they would be subjected to access charges for the transmission of local calls instead of the cost-based compensation guaranteed by Sections 251(b)(5) and 252(d)(2).

Qwest has made no serious attempt to justify levying access charges on such traffic, either under the statute, the Commission's orders, or its interconnection agreement with AT&T.[50] Nor can Qwest do so, which is why Qwest billed AT&T at TELRIC rates for such traffic under the interconnection agreement until December 2002. Qwest then abruptly changed course and sought to impose access charges without going through the change management

[49] *See WorldCom, Inc.* v. *FCC*, 288 F.3d 429, 433-34 (D.C. Cir. 2002) ("§ 251(g) speaks only of services provided 'to interexchange carriers and information service providers'; LECs' services to other LECs, even if en route to an ISP, are not 'to' either an IXC or to an ISP").

[50] See *Qwest 2/14 Ex Parte* at 2.

process. Qwest's actions are patently unlawful and violate checklist item one, which requires cost-based reciprocal compensation. This is a clear checklist violation that cannot be avoided.[51]

[51] WorldCom notes in its comments that Qwest's OSS is fundamentally deficient in that Qwest fails to include area codes for "forward to" numbers on many customer service records ("CSRs"), which causes call forwarding orders to be rejected, and that Qwest fails to enable CLECs to access all addresses in its PREMIS database. *See* WorldCom Comments at 12-14, 15-16. During the past two weeks, AT&T has also experienced these problems.

CONCLUSION

For the foregoing reasons, and for those provided in AT&T's opening comments, Qwest's application for authorization to provide in-region, interLATA services in New Mexico, Oregon, and South Dakota must be denied.

Respectfully submitted,

/s/ Mark C. Rosenblum

Mark C. Rosenblum
Lawrence J. Lafaro
Richard A. Rocchini
One AT&T Way
Room 3A227
Bedminster, NJ 07921
(908) 532-1843

David W. Carpenter
SIDLEY AUSTIN BROWN & WOOD
Bank One Plaza
10 South Dearborn Street
Chicago, Illinois 60603
(312) 853-7000

David L. Lawson
Mark D. Schneider
Jacqueline G. Cooper
James P. Young
Christopher T. Shenk
SIDLEY AUSTIN BROWN & WOOD, L.L.P.
1501 K St., N.W.
Washington, D.C. 20005
(202) 736-8000

Mary B. Tribby
AT&T Communications of the Mountain States, Inc.
1875 Lawrence Street, Room 1575
Denver, Colorado 80202
(303) 298-6163

Attorneys for AT&T Corp.

February 27, 2003

CERTIFICATE OF SERVICE

I hereby certify that on this 27th day of February, 2003, I caused true and correct copies of the forgoing Reply Comments of AT&T Corp. to be served on all parties by mailing, postage prepaid to their addresses listed on the attached service list.

Dated: February 27, 2003
Washington, D.C.

/s/ Peter M. Andros
Peter M. Andros

SERVICE LIST

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Room CY-B402
Washington, D.C. 20554[52]

Qualex International
Portals II
445 12th Street, SW, Room CY-B402
Washington, D.C. 20554

Janice Myles
Federal Communications Commission
9300 East Hampton Drive
Capitol Heights, MD 20743

Anthony Medeiros
NMPRC
Marion Hall
224 East Palace Avenue
Santa Fe, NM 87501

David Booth
Public Utility Commission of Oregon
550 Capitol Strett, NE #215
P.O. Box 2148
Salem, OR 97308-2148

Pam Bonrud
Executive Director
500 E. Capitol
Pierre, SD 57501

Ryan Harsch
U.S. Department of Justice
Antitrust Division
Telecommunications and Media
Enforcement Section
1401 H Street, NW, Suite 8000
Washington, D.C. 20530

Peter A. Rohrbach
Mace J. Rosenstein
Linda L. Oliver
David L. Sieradzki
Hogan & Hartson
555 13th Street, NW
Washington, D.C. 20004

Patrick J. Donovan
Rogena Harris
Swidler Berlin Shereff Friedman, LLP
3000 K Street, NW, Suite 300
Washingtoin, D.C. 20007

David L Rice
Miller Nash LLP
4400 Two Union Square
601 Union Street
Seattle, WA 98101-1367

James D. Reason
Cable Huston Benedict Haagensen
& Lloyd LLP
1001 SW 5th Avenue, Suite 2000
Portland, OR 97204-1136

James Baller
The Baller Herbst Law Group PC
2014 P Street, NW
Washington, D.C. 20036

---

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Marybeth M. Banks
H. Richard Juhnke
Sprint Communications Company LP
401 9th Street, NW, Suite 400
Washington, D.C. 20004

Randall B. Lowe
Davis Wright Tremaine LLP
1500 K Street, NW, Suite 450
Washington, D.C. 20005-1272

Lori Wright
WorldCom, Inc.
1133 19th Street, NW
Washington, D.C. 20036

Marc A. Goldman
Jenner & Block, LLC
601 13th Street, NW, Suite 1200
Washington, D.C. 20005

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Exhibit A

DESIGNING SURVEY QUESTIONS

December 1998

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107 Manning Hall
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bwiggins@irss.unc.edu

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Sampling and Analysis:
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WRITING GOOD SURVEY QUESTIONS

What is a good question?
One that
1. is consistently understood
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4. can be answered with the knowledge the respondent has*
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*unless the purpose of the question is to measure knowledge

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1. Evaluate the strength of predictable relationships among answers and with other characteristics of respondents.
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   Bad: Did you vote in the last election?
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7. Word questions so that every respondent is answering the same question. So it is usually a bad idea to provide definitions "only if asked." Definitions should be given before the question is asked. The time frame referred to by a question should be unambiguous.

8. A question should end with the question itself. If there are response options, they should constitute the final part of the question. So:
   Not*: Would you say you are very likely, fairly likely, or not likely to move out of this house in the next year?*
   Better*: In the coming year, how likely are you to move to another home? Would you say you are very likely, fairly likely, or not likely?*
   Even better: *Which of the following categories best describes how likely you think you are to move in the next year: very likely, fairly likely, or not likely?*

9. Clearly communicate to all respondents the kind of answer that constitutes an adequate answer to the question.
   Bad question: *When did you move to Chapel Hill?*
   Possible answers: *When I was twenty. Right after I graduated from college. In 1992.*
   Better question*: In what year did you move to Chapel Hill?*
   Also, specify the number of responses if more than one answer is possible (e.g., check all that apply).

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6. Is the question objectionable (too personal--what was your family income last year/ incriminating--have you ever smoked marijuana)? The use of broad categories can sometimes overcome the feeling that a question is too personal (e.g. on income). Instead of asking for directly incriminating information, it sometimes suffices to ask how people feel about people who engage in that behavior or to build up to asking for the incriminating information with a series of questions. A good way to judge these questions is to ask yourself whether you would have responded honestly or not.

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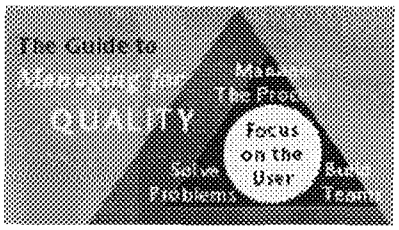
Exhibit B



A joint effort of Management Sciences for Health and the United Nations Children's Fund

User Survey

What is it?

A User Survey is a technique for collecting information that uses a questionnaire (a list of questions) to measure the magnitude of a problem (How big is the problem?).

Who uses it?

The team and the manager, with participation from all staff.

Why use it?

It is an easy, direct observation technique that allows measurement of users' perceptions and attitudes.

When to use it?

When you want direct information about a topic rapidly, and when you want to evaluate users' needs.

How to use it:

1. Define the problem to be investigated

2. Create the questionnaire:
   - The questions should have a logical sequence.
   - Frame questions without using technical terms.
   - Avoid hypothetical questions--instead, focus on the present.
   - Each question must require only one answer to avoid confusion.
   - Avoid words with double meanings and words that are emotionally charged.
   - Give options that are exclusive, and try to include all of the possible responses when asking closed questions.

- Include open-ended or controversial questions at the end.

3. Review the questionnaire with all staff for feedback and to gain commitment to use results.
   Note: In some circumstances, using a statistically defensible sample size and method, together with having the survey questionnaire reviewed by a statistician, can make the results more persuasive to Ministry officials and other decision makers.

4. Test the questionnaire (for format, sequence, and comprehension) with a small group of users (a focus group).

5. Do a statistical analysis with the preliminary results of the test.

6. Define a sample of users to whom the survey will be applied.

Some tips:

The questions planned for the questionnaire can be in open- or closed-ended format:

- Open questions allow the person surveyed to respond in their own words and develop their answer. The benefit of open questions is that you receive more detailed information, but the survey takes more time.
- When asked closed questions, the person surveyed has to choose between various options. The benefits of closed questions are that you can collect more information in less time than you can with the open format and you can receive more precise answers. However, you lose the depth of information you receive with open questions.

Example:

Here is an example of a user survey being utilized in direct observation.

Return to Concept: Record Observations
View Next Tool: Checklist

Go to: Welcome Case Study Map

Parent Sites:
United Nations Children's The Manager's Electronic Management

Fund | Resource Center | Sciences for Health

UNICEF Home | ERC Home | ERC Search | MSH Home

Questions? Comments? Need help? Contact us at erc@msh.org

Queries

menu (Records=157, Time=16ms)
SQL =
select * from navbar

Execution Time

125 milliseconds

Parameters

CGI Variables:

AUTH_PASSWORD=
AUTH_TYPE=
AUTH_USER=
CERT_COOKIE=
CERT_FLAGS=
CERT_ISSUER=
CERT_KEYSIZE=
CERT_SECRETKEYSIZE=
CERT_SERIALNUMBER=
CERT_SERVER_ISSUER=
CERT_SERVER_SUBJECT=
CERT_SUBJECT=
CF_TEMPLATE_PATH=F:\website\enhancement\site\quality\foutools\fouusrvy.cfm
CONTENT_LENGTH=0
CONTENT_TYPE=
GATEWAY_INTERFACE=CGI/1.1
HTTP_ACCEPT=image/gif, image/x-xbitmap, image/jpeg, image/pjpeg, application/msword, application/vnd.ms-excel,
HTTP_ACCEPT_LANGUAGE=en-us
HTTP_CONNECTION=Keep-Alive
HTTP_HOST=erc.msh.org
HTTP_USER_AGENT=Mozilla/4.0 (compatible; MSIE 6.0; Windows NT 5.1; Q312461)
HTTP_VIA=1.0 DCPROXY01
HTTPS=off
HTTPS_KEYSIZE=
HTTPS_SECRETKEYSIZE=
HTTPS_SERVER_ISSUER=
HTTPS_SERVER_SUBJECT=
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QUERY_STRING=
REMOTE_ADDR=198.232.62.70
REMOTE_HOST=198.232.62.70
REMOTE_USER=
REQUEST_METHOD=GET
SCRIPT_NAME=/quality/foutools/fouusrvy.cfm
SERVER_NAME=erc.msh.org
SERVER_PORT=80
SERVER_PORT_SECURE=0

```
SERVER_PROTOCOL=HTTP/1.0
SERVER_SOFTWARE=Microsoft-IIS/5.0
WEB_SERVER_API=ISAPI
```

Exhibit C

Non-Conscious and Contaminative Effects of Hypothetical Questions on Subsequent Decision Making

GAVAN J. FITZSIMONS

BABA SHIV*

Forthcoming: Journal of Consumer Research

Gavan J. Fitzsimons is assistant professor of marketing at the Wharton School of the University of Pennsylvania, 1400 Steinberg Hall - Dietrich Hall, Philadelphia, PA 19104-6371 (gavan@wharton.upenn.edu). Baba Shiv is assistant professor of marketing at the Henry B. Tippie College of Business, University of Iowa, Iowa City, IA 52242 (baba-shiv@uiowa.edu). The authors contributed equally to this research and their names are listed in alphabetical order. The authors wish to thank Jim Bettman, Alexander Fedorikhin, Steve Hoch, Don Lehmann, Irwin Levin, the editor, associate editor, and the three reviewers for providing invaluable feedback on previous versions of this article. The authors also wish to thank Scott and Carolyn Bonifield for agreeing to be part of brainstorming sessions in the early phases of this project, and Brice Ford, Sangkil Moon, Judy Schreiber, and Rohit Vohra for their help on various aspects of experiment 2. Parts of experiment 2 formed the basis of Brice Ford's honors thesis.

In this article we examine the impact of asking hypothetical questions on respondents' subsequent decision making. Across several experiments we find that even though such questions are purely hypothetical, respondents are unable to prevent a substantial biasing effect on their behavior. Further, we find that an increase in cognitive elaboration increases the contaminative effects of hypothetical questions, and that this increase occurs primarily when the hypothetical information is relevant. Post-study in-depth interviews with a subset of the participants suggest that the effects of hypothetical questions on choice occur beyond awareness and as a result are quite difficult to counteract.

Researchers have long known that the manner in which a question is asked can influence underlying psychological processes, and, consequently, affect the response to the question (Coupey, Irwin, and Payne 1998; Feldman and Lynch 1988; Fischer and Hawkins 1993; Nowlis and Simonson 1997; Schwarz and Sudman 1996; Simmons, Bickart, and Lynch 1993). For example, research in eyewitness testimony has shown that asking questions in a misleading manner can lead to incorrect recall of events that may in turn lead to erroneous judgments of guilt and innocence (Loftus 1979). Further, recent research has shown that the act of asking a question can, in and of itself, go beyond biasing the response and actually change the respondent's behavior (Morwitz, Johnson, and Schmittlein 1993). In the present research, we examine the impact of asking purely hypothetical questions about future behavior on respondents' subsequent actual behavior. Hypothetical questions are used very frequently in many consumer, marketing, and public policy settings as part of legitimate research programs, designed to act as information gathering tools. Recent years have, however, seen a dramatic increase in the use of hypothetical questions, not as a means for gathering information, but as a technique designed to influence the respondent's decision making (see, e.g., Bowers 1996; *New York Times* 2000; Sabato and Simpson 1996). The focus of this article is on the latter use of hypothetical questions, in particular when respondents have strong reasons to suspect that the hypothetical content may not be factual.

What is intriguing about the increased use of hypothetical questions to influence behavior is that such questions have any effect on decision making at all. After all, these questions are hypothetical, a case in point being: "If you knew she (i.e., the opponent) voted against closing pornography businesses, would you vote for her?" This hypothetical question was used by candidate Virginia Fields in the 1997 Manhattan Borough President's race (incidentally, Deborah Glick, the opponent, had cast no such votes). Or,

"if scientific studies show that cakes, pastries, etc. are healthier than they have been portrayed to be, would your consumption of cakes, pastries, etc. change?" Intuitively, such hypothetical questions should not influence decision making. Yet their increased use in the real world, despite a lack of empirical evidence, suggests that they may be effective at influencing subsequent behavior. The goal of this research is to throw more light on this intriguing issue.

More specifically, the goals of this research are (1) to demonstrate that hypothetical questions can influence subsequent decisions, (2) to build on recent work on constructive mental processes and explore when, why, and how the act of asking a hypothetical question can actually change subsequent behavior in substantial ways, and (3) to examine if these effects that have been predominantly found to occur on memory and judgment will extend to the choice domain as well. Research in constructive mental processes has shown that there are often unwanted responses that arise, sometimes unconsciously, from intrusions into such processes (e.g., Braun 1999; Fiedler et al. 1996a; Wilson and Brekke 1994). Wilson and Brekke label such unwanted intrusions as mental contamination, a "process whereby a person has an unwanted judgment, emotion, or behavior because of mental processing that is unconscious or uncontrollable" (Wilson and Brekke 1994, p. 117). We build on this work by proposing that the effects of hypothetical questions on decision making occur through the contamination of mental processes by the content of such questions, despite their status as purely hypothetical pieces of information. We also explore the role of two factors in moderating the contaminative effects of hypothetical questions--the extent of cognitive elaboration and the relevance of the information contained in the hypothetical question and, thereby make a contribution to the literature on constructive mental processes as well. Finally, we contribute to the literature on mental contamination by demonstrating that nonconscious

processes that occur as a result of hypothetical questions result in contaminative effects on choice, not simply memory or judgment.

HYPOTHETICAL QUESTIONS AND THEIR EFFECTS ON DECISION MAKING

Wilson and Brekke's (1994) work on mental contamination presents a useful framework for examining the effects of hypothetical questions on decision making processes. They argue that biases in human reasoning occur through some combination of two primary mechanisms: the failure of rule knowledge and/or mental contamination. By failure of rule knowledge they refer to errors in judgment that result from failure to apply a specific rule of inference (e.g., the sunk cost principle). These rules are "consciously known and deliberately applied." In contrast, errors in judgment through mental contamination occur when judgments or behaviors are influenced by factors that the decision maker would prefer not to be influenced by. For example, a professor who takes the attractiveness of a student into account when grading a paper might prefer not to do so, but may unconsciously do so in any case. Wilson and Brekke (1994) propose several causes of contamination that are relevant to the specific context of hypothetical questioning. They suggest that limited access to mental processes and unwanted automatic processing are the two principal causes of contamination. Limited access to mental processes arises because decision makers are often quite good at recognizing the outcome of a process, but not nearly as good at determining the various contributors to that outcome (Nisbett and Wilson 1977). In the context of hypothetical questions individuals may be aware of their judgments, but they may be unaware of the mental processes that actually give rise to these judgments.

Under unwanted automatic processing, Wilson and Brekke implicate the role of accessibility (of cognitions) in mental contamination (see also Higgins 1996 for the biasing effects of accessibility). Evidence of contaminative effects arising from the accessibility of cognitions can be found in stereotyping research (e.g., Devine 1989; Gilbert and Hixon 1991); even with the best of intentions, individuals find it difficult not to use highly accessible stereotypic beliefs in social judgments. Similarly, evidence garnered from numerous studies on human memory suggests that merely considering a false proposition can lead to mental contamination (e.g., Braun 1999; Fiedler et al. 1996a; Loftus 1979). For example, Braun (1999) had respondents taste orange juice that had been altered to worsen its taste (an experience that was clearly bad), then watch a commercial for the juice that portrayed the juice in a very positive light. Results clearly indicated that the recall of the prior experience had been contaminated by the "false information" provided in the commercial. These intrusions, in turn, influenced respondents' preferences for the orange juice. In related research on the impact of misleading questions on post-event memory in the legal domain, Loftus (1979) found that inserting incorrect information into a question biased respondents' memories of the event. For example, after watching a film of an automobile accident, respondents were either asked "How fast was the white sports car going when it passed the barn while traveling along the country road?" Or "How fast was the white sports car going while traveling along the country road?" No barn had appeared in the film. However, those with the false information embedded in their question were six times more likely to recall seeing a barn versus the control group that received no false information.

The findings reported in Fiedler et al. (1996b) suggest that these memory intrusions occur because considering false propositions enhances the accessibility of cognitions related to such propositions and in turn, leads to inferences that are potentially

based on knowledge structures only peripherally related to the original information. The findings also demonstrate that these memory intrusions are not dependent on forgetting of the original information. Thus, hypothetical questions may affect decision making through a lack of awareness of their contaminating effects by engendering highly accessible cognitions related to the content of such questions. These content-related cognitions that become associated in memory with the target of the hypothetical question may then be incorporated into subsequent judgments or even actions. Further, the biasing effects of hypothetical questions will be determined by the valence of the content that gives rise to content-related cognitions. Specifically, if the content of the question is negatively (positively) valenced, the decision maker's judgments of the target object will become more negative (positive) than they would otherwise be. With our focus in this research being on actual choice behavior rather than on memory and/or judgment (the predominant focus of prior research on mental contamination), the above discussion suggests that if presented with a choice, the likelihood of choosing the option that was the subject of a negative (positive) hypothetical question will decrease (increase). Formally,

H1: Individuals presented with negative (positive) information in the form of a hypothetical question will have lower (higher) preference for and choice of the object of the hypothetical question, relative to individuals not presented with the question.

Moderating Role of Cognitive Elaboration

Wilson and Brekke (1994) propose that one factor that is likely to affect the accessibility of cognitions, and hence mental contamination, is the level of cognitive

elaboration. Specifically, they propose that contaminative effects may either be enhanced or attenuated as the level of cognitive elaboration increases. The key to the nature of contaminative effects is whether or not the elaboration engenders in the individual an awareness that s/he may be engaging in a biased response. Specifically, the contaminative effects are likely to be attenuated (enhanced) when the elaboration does (not) engender such an awareness.

Evidence of enhanced contaminative effects can be found in Gilbert and Hixon's (1991) work on stereotyping. They find that the contaminative effects of undesirable stereotypic beliefs increase with cognitive elaboration, presumably due to a lack of awareness of the biasing responses despite higher levels of elaboration. Wilson and Brekke (1994) argue that when there is a lack of awareness of the biasing effects the resulting enhanced contaminative effects arise primarily from an increase in the accessibility of cognitions that are the focus of the enhanced elaboration. For instance, the more individuals cognitively elaborate on their prior stereotypic beliefs about a particular minority group, the more accessible cognitions about these beliefs are likely to become. The enhanced accessibility, in turn, is likely to increase the likelihood that these cognitions will impact subsequent judgments and behavior.

Alternatively, the extent of mental contamination could also diminish with an increase in cognitive elaboration. Considerable evidence has been garnered by Gilbert and his colleagues in support of this attenuation hypothesis (see, e.g., Gilbert 1991; Gilbert, Tafarodi, and Malone 1993). Gilbert argues that people tend to engage in a two-stage process when exposed to propositions that they would normally discount (e.g., propositions that are false). A characterization stage, which is associated with less effortful processing, results in initial acceptance of the propositions. In this stage, cognitions related to the propositions are likely to be relatively more accessible, and

hence have an impact on subsequent judgments and behavior. If people engage in more elaborate processing, they enter the correction stage where they are able to assess whether the propositions are true or not, i.e., they become aware of their initial biased reactions to the false propositions. Any impairment of this second stage arising from a lack of cognitive elaboration will lead to mental contamination with the propositions being accepted even if they are patently false. The evidence gathered by Gilbert is largely supportive of the characterization-correction–the level of mental contamination has been found to be high when the level of elaboration is low, and this contamination has been found to get attenuated with increased elaboration.

The question of relevance to the current research is whether the mental contamination engendered by hypothetical questions increases or decreases with increased cognitive elaboration. In other words, will increased elaboration result in the individual becoming aware of the biasing effects of such questions as with the characterization-correction model? Or will the individual remain unaware of these effects despite increased cognitive elaboration as with stereotyping effects? While there is little theoretical basis to provide *a priori* answers to these questions, the increased use of hypothetical questions in the political domain suggests that such questions are effective at influencing decisions even when the level of elaboration is high (assuming that the act of voting is characterized by high levels of cognitive elaboration). This, in turn, points to the possibility that individuals are not likely to become aware of the contaminative effects when the level of elaboration increases, and suggests that increases in cognitive elaboration will result in an enhancement rather than an attenuation of these effects. However, given that there is limited theoretical basis for making predictions *a priori*, we formally present our moderating hypothesis in an "either/or" fashion, with the appropriate hypothesis for the context under investigation being contingent on an awareness of the

potential biasing effects of hypothetical questions. We then empirically test which one of these two hypotheses is supported.

H2a: Individuals who respond to a hypothetical question containing negative (positive) assertions about a target, and who are unaware of the potential biasing effects of responding to such a question will have a lower (higher) choice of the target, when the level of cognitive elaboration is high than when it is low.

Or,

H2b: Individuals who respond to a hypothetical question containing negative (positive) assertions about a target, and who are aware of the potential biasing effects of responding to such a question will have a higher (lower) choice of the target, when the level of cognitive elaboration is high than when it is low.

EXPERIMENT 1

Experiment 1 was carried out in the form of two separate studies. The goal of the first study was to demonstrate the effectiveness of hypothetical questions in affecting decision making. The second study served to examine the moderating role of cognitive elaboration. Cognitive elaboration was manipulated in this study by using standard procedures to vary the levels of respondents' motivation and opportunity-to-process, factors that have been widely considered as antecedents to cognitive elaboration (e.g., Chaiken, Wood, and Eagly and 1996). A voting context was used in experiment 1 for two reasons. First, the use of hypothetical questions in the guise of research, a technique that has come to be known as push-polling in the political domain has become widely

prevalent, suggesting that political consultants believe in the efficacy of this tactic (see, e.g., Sabato and Simpson 1996). Yet little empirical evidence is available to support this belief. Second, while a substantial amount of research has been conducted in the domain of polling, only a small subset has focused on the issue of the behavioral impact of the poll itself (e.g., Greenwald et al. 1987; Morwitz and Pluzinski 1996).

Experiment 1a

Participants. One hundred and seventeen undergraduate students from the University of Pennsylvania participated in the study in partial fulfillment of a course requirement. Participants signed up for the study in class, and were given instructions on how to take part in the study through a computer interface over a local area network within the university. Upon logging into the site, participants were randomly assigned to one of three conditions.

Design. The experiment employed a straightforward three cell between-subjects design where the factor manipulated was whether and how negative information about one of the choice alternatives was delivered. A third of the participants received no negative information (no-information condition), a third received the negative information in the form of a hypothetical question (hypothetical-question condition), and the remaining third received the information in the form of a factual newspaper article (fact condition).

Procedure. Upon logging into the site, each participant received instructions explaining that this was a joint study between faculty members and a political action committee, Citizens for Change, that was interested in voter attitudes toward two political

candidates that the participants would likely be unfamiliar with (they were running for office in Kansas). They were then presented with web-site style information with photos and information about each of the two candidates, followed by five newspaper articles which were mildly supportive of either one or both candidates. At this point, the negative information manipulation occurred (discussed below), after which participants were asked "If you were voting in the Kansas congressional election, which of the two candidates would you vote for?" They indicated their vote by checking a box beside a photo of each candidate and, finally, were debriefed.

The negative information manipulation consisted of one of the three following options. If assigned to the no-information condition participants simply proceeded from the last of the five articles to the voting screen. If assigned to the fact condition, participants read a sixth article, as follows, and then proceeded to the voting screen:

Clark past may haunt him

> Topeka, KS. October 16, 1998 - In a September 2, 1998 interview with The Manhattan Mercury, a senior official in the Kansas City District Attorney's office confirmed that Bob Clark, candidate for the US. House of Representatives' Second District, had been convicted of fraud in 1988. The charge stems from several illegal donations accepted and subsequently misrepresented during his successful campaign for State Treasurer.

Finally, if assigned to the hypothetical-question condition, participants were exposed to the negative information about the candidate in the form of a hypothetical question. After reading the five articles, participants were asked the following question:

> If you learned that Bob Clark had been convicted of fraud in 1988 on a charge stemming from several illegal donations accepted and subsequently misrepresented during his successful campaign for State Treasurer, would your opinion of him increase or decrease?

Responses to the hypothetical question were obtained using a sliding bar with endpoints "become more negative" and "become more positive", and a midpoint labeled "wouldn't

change," and were scaled from 1-99. After answering this question, participants proceeded to the voting screen.

Results. Based on our conceptualization, choice of Candidate A (i.e., Bob Clark, the target of the negative information either in a factual format or a hypothetical-question format) was expected to be lower in the hypothetical-question condition than in the no-information condition (Hypothesis 1). The results were consistent with our expectations. When no negative information was presented, 79.4 percent of the respondents voted for Candidate A (this candidate represented a party with broad appeal to the undergraduate participant population). When the negative information was presented in the form of a hypothetical question (the hypothetical-question condition) the percentage of participants voting for candidate A decreased substantially to 25 percent ($\chi^2 = 31.18$, $p < .001$). Hence Hypothesis 1 was supported. Though not formally hypothesized, a secondary objective of this experiment was to compare the effects of negative information presented as a hypothetical question versus as a fact. Not surprisingly, when the negative information was presented as a fact, in the form of a newspaper article, the voting rate dropped substantially (to 34.9 percent) compared to that in the no-information condition (79.4 percent; $\chi^2 = 19.65$, $p < .001$). More interestingly, when the negative information was presented in the form of a hypothetical question (the hypothetical-question condition) the percentage of participants voting for Candidate A seemed to drop even more substantially (25 percent; the difference between the fact and the hypothetical question conditions was not, however, statistically significant, $\chi^2 = .98$, $p > .10$).

Experiment 1b

Participants. One hundred and sixteen undergraduate students from the same population as experiment 1a participated in the study in partial fulfillment of a course requirement.

Design. The experiment employed a 2 (information-presentation: none/ hypothetical-question) X 3 (level-of-elaboration: impaired/normal/enhanced) between-subjects design. Using standard procedures employed in previous research, the level of cognitive elaboration was reduced from normal levels by impairing respondents' opportunity to process; the level of cognitive elaboration was enhanced from normal levels by increasing respondents' motivation to process.

Procedure. The cover story and basic procedures were quite similar to those used in experiment 1a, except for an absence of the fact condition (i.e., negative information presented as fact). Prior to being presented with web-site style information with photos and information about each of the two candidates, participants either received one of two elaboration manipulations or a control manipulation where no elaboration manipulation occurred. If assigned to the impaired elaboration condition participants received a standard distraction manipulation, a digit counting task (Jacoby 1998). They were instructed as follows:

> As an additional part of this study, we would like you to keep track of how often three odd digits appear in a row in the box in the lower right hand corner of the screen. These digits will change every few seconds. For example, a string of 3, 5, 1 would count as one occurrence, while a string of 3, 5, 2 would not count. It is very important that you keep careful track of these odd number digits. At the completion of the study you will be asked for a final count. Please click below when you are ready to proceed and start counting.

If assigned to the enhanced-elaboration condition participants received instructions designed to increase processing-motivation. Again, as with the distraction manipulation used in the impaired-elaboration condition, a standard procedure adapted from previous work (e.g., Webster, Richter, and Kruglanski 1996) was used to increase processing-motivation in the enhanced-elaboration condition:

> Please pay very close attention to the choice you will be asked to make. We will be asking you to justify your decisions later in the study.

After the elaboration manipulation occurred, participants proceeded as in experiment 1a, with the impaired participants simultaneously performing the digit tracking task until after they voted, at which point they are asked to report how many times three odd numbered digits appeared in a row. Ultimately all participants indicated their vote by checking a box beside a photo of each candidate and were debriefed.

Results. Choice rates of Candidate A, Bob Clark, are shown in Figure 1 for each of the six conditions. A logistic regression analysis was performed with choice rate of candidate A as the dependant variable. Consistent with Hypothesis 1, the results showed a main effect of information-presentation ($\chi^2 = 25.8$, $p < .001$) such that negative information presented as a hypothetical-question led to lower choice of Candidate A than when no negative information was presented. Within each level of elaboration, planned contrasts of the choice rates across the no information and the hypothetical-question conditions demonstrated decreases in choice of Candidate A: 83.3 percent and 55 percent respectively within the impaired-elaboration conditions ($\chi^2 = 3.30$, $p = .07$), 81.8 percent and 38.9 percent respectively within the normal-elaboration conditions ($\chi^2 = 7.09$, $p < .01$), and 88.9 percent and 10 percent within the enhanced-elaboration conditions ($\chi^2 = 16.36$, $p < .001$).

Further, as conceptualized, there was a marginally significant two-way interaction between information-presentation and level-of-elaboration (χ^2 = 5.01, p = .08). Planned contrasts of the choice rates across the various hypothetical-question conditions showed the following. First, the choice of Candidate A was significantly lower in the enhanced-elaboration condition (10 percent) than in the normal-elaboration condition (i.e., the control condition; 38.9 percent; χ^2 = 3.86, p < .05). Second, while choice of Candidate A was higher in the impaired-elaboration condition (55 percent) than in the normal-elaboration condition (38.9 percent), this difference was not significant (χ^2 = .98, p > .10). Finally, the impaired-elaboration and enhanced-elaboration conditions differed significantly in terms of choice of Candidate A (55 percent versus 10 percent respectively; χ^2 = 7.59, p < .01). These results suggest that the effects of the hypothetical question on decision making increased (Hypothesis 2a) rather than decreased (Hypothesis 2b) as the level of cognitive elaboration increased from impaired to normal to enhanced.

Discussion. In combination, experiments 1a and 1b suggest that asking consumers negative hypothetical questions about a candidate for office lead to decreased rates of voting for that candidate, providing support for Hypotheses 1 and 2a. Experiment 1a showed that this decrease in voting behavior was as severe as if the negative information had been presented as fact in the form of a newspaper article. In experiment 1b those exposed to hypothetical questions in conditions of enhanced elaboration were more susceptible to the hypothetical negative information in terms of their observed voting behavior than those in conditions of impaired elaboration. The more the decision-maker considered the hypothetical information, the more biased the subsequent voting behavior became. These results support Hypothesis 2a and suggest

that the psychological processes engendered by hypothetical questions are more akin to those associated with stereotyping than with the characterization-correction model, in that, individuals remain unaware of the biased responses despite high levels of cognitive elaboration.

Experiment 2 is designed to explore this issue in greater depth, as well as to examine the impact of hypothetical questions in a consumer choice context. Experiment 2 is also designed to reduce the viability of two alternative accounts for the results obtained in experiment 1, a demand-effect explanation and a conversational-norm explanation. Note that in experiment 1, only respondents in the hypothetical-question conditions received a question; those in other conditions received either information as fact, or no information at all. It is quite possible that the enhanced effects of hypothetical questions in experiment 1 came about because respondents in the hypothetical-question conditions felt that, because they had been asked a question about the target (Candidate Bob Clark), they were expected to vote for this target. The higher the cognitive elaboration, the greater the likelihood that respondents wondered about the experimenters' potential intentions, and, therefore, the greater the impact of hypothetical questions on choice. We term this alternative account as the demand-effect explanation. In experiment 2, we attempt to provide evidence against this account by having hypothetical questions in all conditions (except the control condition) and demonstrating an interactive pattern of results that is incompatible with this alternative account.

The second alternative explanation arises from work related to conversational norms (e.g., Hilton 1995; Schwarz 1996). It is quite possible that participants in experiment 1 knew that the question was hypothetical in nature, but, based on conversational norms, treated the assertions in the question as true. After all, why would we, the experimenters, pose such a question if it were not true. As a result, participants

consciously accepted the assertions about the target and behaved accordingly. In other words, the pattern of results observed in experiment 1 came about not due to mental contamination, i.e., through processes occurring beyond awareness, but due to more conscious processes. We term this explanation as the conversational-norm explanation. Note that there are two necessary aspects to this explanation. First, respondents must consciously accept the assertion in the hypothetical question as being true, and, second, respondents must be conscious of the impact these assertions had on their decisions. In experiment 2, we attempt to reduce the viability of the conversational-norm explanation in several different ways: (1) by explicitly stating up-front that the question participants will be reading is hypothetical (i.e., "not based on truth and put forth only on inconclusive grounds"), and (2) by asking participants questions regarding the two aspects of this explanation after they made their choices.

EXPERIMENT 2

Experiment 2 served to accomplish several goals. Beyond reducing the viability of the two alternative accounts delineated in the previous section, a second goal was to replicate the findings of experiment 1 in a consumer choice context similar to the ones used by Dhar and Wertenbrock (2000) and Strahilevitz and Myers (1998), with participants making actual choices rather than imaginary choices. A third goal was to examine if the effects of hypothetical questions observed in experiment 1 would occur if the target was familiar (i.e., cakes), and the assertion in the hypothetical question was positively valenced and inconsistent with prior beliefs related to the target (i.e., the assertion was that cakes are healthy, which, in general, is inconsistent with consumers' prior opinions about cakes). Recall that in experiment 1 the target of the hypothetical

question was unfamiliar to the respondents and the assertion in the hypothetical question was negative toward the target. Further, the negative assertion about the target may be considered as being consistent with people's general opinions about politicians. Though not formally hypothesized, a fourth goal of experiment 2 was to examine if impact of hypothetical questions on choices are mediated by changes in underlying belief structures.

A final goal of experiment 2 was to identify another factor that may moderate the effects of hypothetical questions on decision making. Several researchers (e.g., Chaiken et al. 1996; Higgins 1996; Wilson and Brekke 1994) have argued that the effects of activated cognitions on decision making depend not only on the accessibility of these cognitions, but also on relevance of the accessible cognitions to the decision, i.e., the diagnosticity of the accessible cognitions (Feldman and Lynch 1988). In other words, a hypothetical question asserting that cakes may yield substantial health benefits should be more relevant for decisions involving cakes than one asserting that cakes may yield only marginal health benefits. As a result of its increased relevance or diagnosticity, the former hypothetical question ought to be more effective at influencing the decision than the latter. More formally,

H3: The effects of hypothetical questions on decision making are likely to be greater when these questions focus on aspects that are more rather than less relevant to the decision.

To test Hypothesis 3, experiment 2 examined the relative effectiveness of two different hypothetical questions, both focusing on the health attribute, but one presupposing that cakes yielded substantial health benefits and the other presupposing that cakes yielded only marginal health benefits. In addition to meeting this goal, comparing the effects of the two different presuppositions provides a test of the demand-

effect explanation delineated before. Specifically, if the observed effects of hypothetical questions come about because participants feel that they are expected to choose the cake (since they have been asked a question about cakes), then, responding to such questions should result in enhanced choices of the cake irrespective of the relevance of the information provided in such questions. However, if the choice of the cake turns out to be higher when information-relevance is high than when it is low (Hypothesis 3), then experimenter-demand is less likely to be a plausible alternative account.

Experiment 2 also differed from experiment 1 in that additional measures were collected. Unlike experiment 1b, measures were collected to assess the success of the level-of-elaboration manipulation. Further, after participants had engaged in the choice task, they were asked to indicate the thoughts that went through their minds when they were making their decisions. These thought protocols served to further rule out the viability of the demand-effect explanation (if experimenter-demand were driving the results in the hypothetical-question conditions, then references to the hypothetical question ought to be present in the protocols). Also, to provide further evidence against this explanation participants were asked during post-study in-depth interviews if they thought that the experimenters had expected them to make their choices in a specific fashion, and if their choices had been influenced by these expectations. To reduce the viability of the conversational-norm explanation, participants were asked a direct question at the end of the instrument as to whether their responding to the hypothetical question influenced their subsequent behavior. Evidence against the viability of the conversational-norm explanation was further obtained by asking specific questions in the in-depth post-study interviews carried out with a subset of the participants.

Participants. Three hundred and seventy-seven undergraduate students, from the University of Iowa and the University of Pennsylvania participated in the study in partial fulfillment of course requirements. (A subject-population dummy variable was included in the various analyses; the analyses indicated that the two samples were not different from each other and hence could be pooled.) The experimental sessions were run in small groups of seven to twelve students and participants were randomly assigned to one of five experimental conditions.

Design. Experiment 2 used a 2 (level-of-elaboration: normal vs. high) X 2 (information-relevance: high vs. low) between-subjects design with an additional control group.

Procedure. The procedure that was used in experiment 2 was adapted from Shiv and Fedorikhin (1999). The experiment was carried out in two different rooms. In the first room, participants were provided with instructions stating that they would be taking part in two different studies being carried out by various marketing faculty and doctoral students. They were told that the first study would be conducted in the first room, and the second study, which served only as a filler task, would be conducted partly in the first room and partly in the second room. The disguise used was that the second study was about the effects of a change in environment on how consumers express opinions about products. Further, respondents were told that they would be provided with a choice of snacks for participating in the study (no mention was made of the nature of the snacks; also note that the procedure was such that, as far as respondents were concerned, the choice task was incidental to the main experiment). The remaining instructions on the cover page of the booklet that were read out aloud by the experimenter were as follows:

> This study is part of a main study that we plan to carry out with students like you toward the end of this semester. One goal of the main study is to find out how consumers make decisions about food products. On the subsequent pages you will be asked several questions, mostly about you and your opinions related to food-consumption. Some of these questions will be hypothetical in nature (in other words, not based on truth and put forth only on inconclusive grounds).

On the next page, participants in the control condition were asked roughly how many times a month they consume cakes, pastries, etc. Participants in the experimental conditions were asked the same question (to ensure that the task across the experimental and control conditions was as parallel as possible), and then asked to respond to another question (participants in the control condition were not presented with any question). This question, which was hypothetical in nature, focused on health benefits associated with the consumption of cake. In the high information-relevance conditions, the hypothetical question stated:

> If strong evidence emerges from scientific studies suggesting that cakes, pastries, etc. are not nearly as bad for your health as they have often been portrayed to be, and may have some major health benefits, what would happen to your consumption of these items?

In the low information-relevance conditions, the hypothetical question stated:

> If strong evidence emerges from scientific studies suggesting that cakes, pastries, etc. are not nearly as bad for your health as they have often been portrayed to be, and may have some minor health benefits, what would happen to your consumption of these items?

As in experiment 1, the following was added to the above to induce high elaboration:

> Please think carefully before you respond to the question. You will be asked to justify your response later.

After reading the hypothetical question, participants marked an X on a line with endpoints "it would decrease" and "it would increase."

Participants then took part in a second study. To be consistent with the cover story that this study was about the effects of a change in environment on how consumers express opinions about products, subjects were told that they would express their opinions about the products again in another room. Upon exiting the first room, each participant was provided with directions to the second room. They were also instructed to walk over to a cart that was visible from the first room. Participants were told that they would find two snacks on display on the cart (no mention was made of the snacks), and that they were to decide on which snack they would like to have, pick a ticket for the snack of their choice, and then proceed to the second room. Two snacks–a piece of chocolate cake with cherry topping and a serving of fruit-salad–in transparent plastic containers were placed on a cart stationed between the two rooms. To control for the prices and the supplier of the two snacks, a price sticker ($1) obtained from a local grocery store was affixed to each of the two containers on display. In the second room, each participant received a booklet that contained measures related to the choice between the cake and the fruit-salad, and were debriefed.

Pretests. A separate pretest was carried out with 43 participants from the same subject population as the main experiment. The procedure that was used in this pretest that was very similar to that used in the main experiment. One difference was that immediately after reading the hypothetical question, all participants were asked to rate on three seven-point "very low (1)/very high (7)" scales the extent to which they thought about, the time they spent thinking about, and the amount of attention they paid to what was presented in the question. Since the Cronbach alpha was .82, the responses to these items were averaged to from a single variable (Elaboration). A second difference in the procedures was that after respondents in the pretest made their choices and

proceeded to the second room they were asked to think back to the hypothetical question and rate the magnitude of the health benefits that were asserted in the question. Three seven-point scales anchored by "minor (1)/major (7)," "marginal (1)/substantial (7)," and "very little (1)/very large (7)" were used for this purpose. Again, the Cronbach alpha was .98, so the responses to these items were averaged to form a single variable (Health-benefits). Two separate ANOVAs, with information-relevance and level-of-elaboration as the independent variables revealed (1) a significant main effect of level-of-elaboration on Elaboration ($F(1, 39) = 22.52$, $p < .0001$), (2) a significant main effect of information-relevance on Health-benefits ($F(1, 39) = 298.6$, $p < .0001$), and (3) none of the other treatment effects were significant. The extent of cognitive elaboration was higher in the high level-of-elaboration conditions ($M = 5.26$) than in the low level-of-elaboration conditions ($M = 3.93$). Further, respondents rated the magnitude of health benefits that were asserted in the hypothetical question to be higher in the high information-relevance conditions ($M = 5.68$) than in the low information-relevance conditions ($M = 1.84$).

Measures. In the second room, participants were first asked: "Just a moment ago you made a choice from two options, the cake and the fruit-salad. Please indicate below the option that you chose." Responses to this question were compared with the tickets for the snacks that participants had picked from the cart (across all respondents, the responses to the choice-measure matched perfectly with the snacks indicated on the tickets). Respondents were then instructed, "describe, as completely as possible, whatever went through your minds while you were deciding between the two snacks." The instructions for reporting thought protocols were similar to those used in the literature (see, e.g., Edell and Keller 1989; Shiv, Edell, and Payne 1997). The thought protocols were later coded by an independent judge for any references to the first study about food products

(presence of many such references would lend support to experimenter-demand effects being responsible for the results). Participants then reported their beliefs about consuming cake and fruit-salad (one at a time, with order counterbalanced). Five items were used to measure respondents' beliefs. These items, adapted from Crites, Fabrigar, and Petty (1994), were anchored by "harmful (1)/beneficial (7)," "not good for health (1)/good for health (7)," "a foolish choice (1)/a wise choice (7)," "bad (1)/good (7)," and "useless (1)/useful (7)." Responses to these items were averaged to form one consumption-belief variable for the cake (Bel-cake; Cronbach alpha = .86) and one for the fruit-salad (Bel-fruit; Cronbach alpha = .81).

Participants were then asked to indicate ("yes"/"no") if their responses to the questions about food consumption in the first study had any influence on what they chose. The purpose of this measure was to get at the conversational-norm explanation. Recall that, according to this explanation, respondents are conscious of the fact they accepted the assertions in the hypothetical question as true, and that these assertions had an impact on their choices. Hence, a substantial numbers of "no" responses to this question would question the viability of this alternative account. Finally, several demographic measures were collected.

Results-Choice. Consistent with our conceptualization, a logistic regression analysis revealed a significant level-of-elaboration by information-relevance interaction ($\chi^2 = 10.82$, $p = .001$), in addition to a significant main effect of level-of-elaboration ($\chi^2 = 19.36$, $p = .0001$) and a significant main effect of information-relevance ($\chi^2 = 17.12$, $p = .0001$). As seen in Figure 2a, when the level of elaboration was normal, 48 percent of the respondents in the high information-relevance condition chose the cake. Consistent with Hypothesis 1, this percentage was significantly higher than the percentage of participants

choosing the cake in the control condition, where respondents had not been asked a hypothetical question (25.7 percent; $\chi^2 = 7.90$, $p < .005$; note that both Hypotheses 1 and 2 ought to be read with the words in parenthesis because the content of the hypothetical questions were positively valenced in experiment 2). Further, consistent with Hypothesis 3, this percentage was significantly higher than the percentage of participants choosing the cake in the low information-relevance condition (26.2 percent; $\chi^2 = 8.47$, $p < .004$).

When the level of elaboration was high, 66.2 percent of the respondents in the high information-relevance condition chose the cake, a percentage that was significantly higher than that in the control condition (25.7 percent; $\chi^2 = 24.18$, $p < .0001$), and in the low information-relevance condition (36.1 percent; $\chi^2 = 14.4$, $p < .0001$). Further, in line with our conceptualization (Hypothesis 2a), within the high information-relevance conditions, an increase in the level of elaboration significantly enhanced the percentage of participants choosing the cake (66.2 percent vs. 48 percent in the high and normal elaboration conditions respectively; $\chi^2 = 5.6$, $p < .02$). Also, as conceptualized, this enhancement did not occur within the low information-relevance conditions (36.1 percent and 26.2 percent in the high and normal elaboration conditions respectively, $\chi^2 = 1.73$, $p > .20$).

Results-Beliefs. As seen in Figure 2b, the pattern of results on Bel-cake mirrored that on choice. (Since the hypothetical questions did not focus on the fruit-salad, no effects of the independent variables on Bel-fruit were expected. The results were consistent with this expectation.) An ANCOVA revealed a significant information-relevance by level-of-elaboration interaction ($F(1, 372) = 4.07$, $p = .04$), in addition to significant main effects of information-relevance ($F(1, 372) = 3.71$, $p < .05$) and level-of-

elaboration $F(1, 372) = 20.32$, $p < .0001$). Further, planned contrasts revealed that when the level of elaboration was normal, beliefs about consuming cake were more favorable, at marginal levels of significance, in the high information-relevance condition ($M = 4.17$) than in the control condition ($M = 3.90$; $F(1, 372 = 2.78$, $p = .09$), and in the low information-relevance condition ($M = 3.79$; $F(1, 372) = 3.15$, $p = .07$). Within the high level-of-elaboration conditions, beliefs about consuming cake were more favorable in the high information-relevance condition ($M = 4.58$) than in the low information-relevance condition ($M = 3.84$; $F(1, 372) = 20.72$, $p = .0001$). Finally, within the high information-relevance conditions, beliefs about consuming cake were significantly more favorable in the high elaboration condition ($M = 4.58$) than in the normal elaboration condition ($M = 4.17$; $F(1, 372) = 7.81$, $p = .006$).

A test was carried out to examine if the significant interactive effect of the two independent variables on choice (reported in the previous section) was mediated by Bel-Cake. According to Baron and Kenny (1986), mediation is said to exist if three criteria are met: (1) the independent variable(s) (here, the interaction between information-relevance and level-of-elaboration) influences the potential mediator (Bel-cake), (2) the potential mediator, Bel-cake, influences the dependent variable (choice), and (3) the relationship between the independent and dependent variables is weakened when the mediator is introduced as a covariate. An ANCOVA revealed that the first criterion for mediation was supported by a significant interactive effect of the two independent variables on Bel-cake ($F(1, 372) = 4.07$, $p = .04$). A logistic regression analysis provided support to the second criterion for mediation by revealing a significant effect of Bel-cake on choice, ($\chi^2 = 44.02$, $p < .0001$). Another logistic regression analysis provided support to the third criterion for mediation. The significant two-way interaction (reported in the previous section under the heading choice) was no longer significant once Bel-cake was included as a covariate in

the model ($\chi^2 = 2.63$, $p > .10$) while the Bel-cake variable remained significant ($\chi^2 = 38.43$, $p < .0001$). Thus, complete support was obtained for all three criteria, suggesting that Bel-cake did serve as a mediator between the independent variables and choice.

Results-Alternative Explanations. Participants' thought protocols that were collected at the beginning of the instrument and later coded by an independent judge served to test the viability of the demand-effect explanation. None of the respondents made any references to the first study that contained the hypothetical question, reducing the viability of this account. Participants' responses to the question we posed at the end of the instrument (whether what they did in the first study impacted their subsequent choices) served to test the viability of the conversational-norm explanation. None of the respondents answered in the affirmative. This finding, together with other pieces of evidence garnered from post-study in-depth interviews (to be discussed shortly), reduces the viability of this alternative explanation.

Discussion. Experiment 2 replicated the core findings of experiment 1 using an actual consumer choice context, using hypothetical questions that were positive about the target, and using a different procedure to manipulate the level-of-elaboration factor. Experiment 2 also identified information-relevance as another moderator to the effects of hypothetical questions on actual behavior. Consistent with our conceptualization, choice of the cake (the target of the hypothetical questions) was higher when individuals responded to a hypothetical question than when they did not. However, these effects on behavior occurred primarily when the hypothetical questions focused on information of high relevance. Also, the moderating effects of cognitive elaboration found in experiment 1 were replicated in experiment 2, with the effects of hypothetical questions with high

information-relevance being amplified when the question was processed under higher levels of cognitive elaboration. These results supporting the amplification hypothesis (Hypothesis 2a) rather than the attenuation hypothesis (Hypothesis 2b) suggest that the underlying processes associated with hypothetical questions are similar to those occurring in stereotyping, i.e., like stereotyping effects, people seem to remain unaware of the biasing effects of hypothetical questions even at increased levels of cognitive elaboration, resulting in an accentuation of the effects with increased elaboration.

The results on beliefs related to consuming cake were also consistent with our conceptualization. While increased elaboration seemed to enhance the accessibility of cognitions related to the content of the hypothetical question, these cognitions seemed to have a bigger impact on choice when the assertions contained in these questions were more rather than less relevant for the decision. The results also provide little support for the demand-effect alternative explanation. One piece of evidence against this account comes from the pattern of results on choice and from analyzing the written protocols (thoughts that went through respondents minds when they were engaged in the choice task). Note that if, based on the demand-effect explanation, the effects of hypothetical questions come about because respondents feel that they are expected to choose the cake, then the proportion of respondents choosing the cake ought to have been high in both the high and low information-relevance conditions. This was not the case. Also, if the demand-effect explanation were viable, respondents' written protocols ought to have had references to the hypothetical-question. None of the subjects even mentioned the first study about food products in their protocols, further reducing the viability of the demand-effect explanation. Finally, as will be discussed in the next section, the in-depth interviews that were carried out with a subset of the respondents did not provide any support for this alternative account. The results also question the validity of the

conversational-norm account. Evidence against this account was provided by respondents indicating whether their decisions had been influenced by what they did on the first task. Contrary to what the conversational-norm explanation would suggest, none of the respondents answered this question in the affirmative.

In-Depth Interviews

To provide further evidence against the demand-effect and conversational-norm explanations, and to gain a better understanding of the underlying thought processes that participants engaged in during experiment 2 we conducted a series of post-experiment interviews. Following completion of the main experiment, five participants from each cell were randomly recruited to participate in in-depth interviews. The first phase of the interviews used a non-directive, open-ended interviewing style that was adapted from McQuarrie and Mick (1999). Participants were told, "We would like to ask you a few questions about the three studies you participated in just now. Just to jog your memory, this was the first study." The interviewer then raised the first booklet and showed the second page (containing the question about their consumption of cakes, pastries, etc.; the hypothetical question was on the subsequent page, so respondents were not exposed to it during the interviews). This was to ensure that respondents did not see the instructions, which stated that one of the questions that followed would be hypothetical in nature. Showing these instructions could have affected participants' responses to a question we asked after the unstructured component of the interview about whether participants were aware that the hypothetical question was indeed hypothetical when they responded to it. The interviewer then continued: "Can you tell me all that you can remember about the first study–what was the study about, what were the questions that

were asked, what were you thinking when responding to the various questions?" This procedure was then repeated for the second and third studies.

The second phase of the interviews was more directive in nature and asked participants to provide answers to specific questions about two issues. The first issue was whether the participants were aware of the fact that the hypothetical question and their responses to it had a potential impact on their subsequent choices. The second line of inquiry was whether participants were aware of the fact that the question that they responded to in study 1 was indeed hypothetical in nature. Responses to these questions issue served to throw more light on the alternative explanation related to conversational norms and on whether participants were aware of the contaminative effects of hypothetical questions.

The non-directive phase of the interviewing yielded a pattern of thoughts on several important issues. The most pervasive of these patterns was that participants clearly recognized that the question about cakes was hypothetical, despite receiving no prompt or suggestion to this effect from the interviewer. Of the 20 participants receiving a hypothetical question (the five control participants did not receive one), 18 indicated in their response that they understood the hypothetical nature of the question:

"The study was about food items, cakes, how much I consumed and whether or not my consumption will increase if cakes are found to be healthy." (Respondent 1)

"There was a question about how many times I eat cake. I don't eat much, maybe once a month. I used to eat more when I lived at home. My mom makes great cakes. Then you asked the question about will I eat more if cakes become healthy." (Respondent 2)

"On the second page were the questions that you just showed. Then came the hypothetical question - what if scientific studies find cakes to be healthier or something like that." (Respondent 3)

These non-directive responses were further supported in the second phase of the interview when participants were specifically asked whether they accepted the hypothetical content as true when they responded to the question:

"No, I did not buy that. But I thought the question was not if it was true or not but, if it is true will I eat more cake." (Respondent 2)

"No, it was not true. All it said was what if the studies showed that cakes are healthy. It did not say that cakes are really healthy." (Respondent 3)

"That was a hypothetical question. So I did not think it was true." (Respondent 4)

With respect to the issue of whether participants believed the hypothetical question affected their subsequent choice, all post-study participants were asked whether they felt that the first study affected their choice. Every respondent responded negatively:

"No. I was just thinking about which one I'd have for lunch. I am kind of hungry. I did not think about that study." (Respondent 4)

"No, I don't think it mattered at all. I mean I picked the fruit because it looked better." (Respondent 5)

When participants were specifically asked "What if I told you that your choice was probably influenced by what you did on the first study, what would you say?" incredulous responses were given, with most participants unwilling to accept the possibility of influence:

"I can't see how that could have happened. No, I am sure it did not affect me at all." (Respondent 5)

"Beats me, I mean, I wasn't even thinking about that study when I picked the cake. Doesn't make sense." (Respondent 6)

"That can't be true, right? I mean, the first study did not say that I should have cake. All it said was if cakes become healthy. But cakes are not healthy, so I could not have, I mean, that could not have prompted me to pick the cake." (Respondent 7)

The nondirective phase of the interviews also reflected a general belief that the hypothetical question would not affect the participants' actual choices, although some wished the information were true so that they could guiltlessly choose:

"Then you asked some question about eating more cake if they are found to be healthy. That was kind of interesting. I don't think cakes can ever be healthy but then I am not the one to complain if they are. Healthy, that is. I like cake. I wish they could really find a way to make them more healthy. Then I can eat as much as I want." (Respondent 8)

"I like cake, but I have to control myself. So when I got the question about some researchers finding cake is healthy, I was telling myself, wish this was true. Then I can eat all the cake that I want." (Respondent 9)

Finally, to further examine the viability of the demand-effect explanation (i.e., by asking a hypothetical question participants were led to feel they were expected to choose cake) each of the participants were asked if they believed the experimenters expected them to choose a specific snack. Each of the 25 participants responded "no." Even if a demand effect were operating, one would expect it to affect all of the conditions similarly.

In summary, the results of our post-experiment in-depth interviews provide further support against two potential counter-explanations: a simple demand explanation, and an explanation built around conversational norms. As stated earlier, two conditions are necessary for a conversational norms explanation to adequately represent the data: (1) respondents must consciously accept the assertion in the hypothetical question as true, and (2) they must be conscious of the impact the assertion had on their decision. As the results of both non-directive and directive interview components clearly show, neither of these conditions received support from the data.

GENERAL DISCUSSION

Summary of Findings

The goal of this article was to examine the role played by hypothetical questions in the decision making process. Based on prior work on constructive mental processes (e.g., Braun 1999; Fiedler et al. 1996 a & b; Wilson and Brekke 1994), our primary proposition was that changes in behavior will be greater among participants that respond to hypothetical questions than among those who do not respond to such questions.

Experiment 1a demonstrated the basic effect by showing that negative information contained in a hypothetical question about a candidate for office led to substantially decreased rates of voting for the candidate. Experiment 1b showed that not only do hypothetical questions affect voting behavior, but more interestingly, this effect is amplified rather than attenuated as consumers cognitively elaborate on the hypothetical question. In other words, the findings are less consistent with those related to the characterization-correction model (e.g., Gilbert et al. 1993), and more consistent with those in the stereotyping literature (e.g., Gilbert and Hixon 1991), where individuals remain unaware of their biased responses even when engaging in high cognitive elaboration.

Experiment 2 replicated the core findings of experiment 1 in a context where individuals chose between cake and fruit-salad. First, it demonstrated that positive information contained in a hypothetical question about cakes, pastries, etc. led to substantially increased choice of the cake. Second, it demonstrated that elaboration on the hypothetical question further amplifies the effects of hypothetical questions on actual behavior. Further, experiment 2 provided support to our proposition that the effects of hypothetical questions on choice will be moderated by the relevance of the information that these questions focus on. By exposing individuals to a hypothetical question that focused on high information-relevant content (cakes providing some substantial health benefits) or lower information-relevant content (cakes providing some marginal health

benefits), we found that the impact of hypothetical questions occurred only when information-relevance was high and not when it was low.

Theoretical and Managerial Implications

Theoretically, this research adds to the growing body of work on mental contamination (e.g., Braun 1999; Fiedler et al. 1996 a & b; Wilson and Brekke 1994) in several important ways. First, we identify responding to hypothetical questions as yet another source of mental contamination. In line with Wilson and Brekke's definition of mental contamination, the findings from our post-study in-depth interviews suggest that hypothetical questions influence behavior through unconscious processes. These interviews reveal that individuals are not aware of the influence of such questions on their choices. Second, in contrast to the bulk of work on mental contamination that has predominantly restricted its attention to effects on memory (for an exception, see Braun 1999), we examine whether these effects extend to actual behavior as well. Not only were we able to demonstrate that hypothetical questions are effective in a voting and a consumer choice context, but also that these effects go well beyond memory and significantly impact consumer choices.

We also contribute to the work on mental contamination by identifying and examining some important moderators of the impact of hypothetical questions on choice. In line with one stream of work (e.g., Gilbert and Hixon 1991), we find that higher levels of cognitive elaboration at the time of answering the hypothetical question accentuates the level of mental contamination. These findings related to cognitive elaboration are intriguing and somewhat counter-intuitive, because one would expect that when individuals elaborate on hypothetical questions, they would realize that such questions

are only hypothetical and would correct for the potential behavioral biases. Apparently what seems to account for the accentuation is that individuals are unaware of the biasing effects of such questions, and when they elaborate, the accessibility, and, hence, the impact on choice of cognitions engendered by these questions is enhanced. From the perspective of Gilbert's (1991) characterization-correction model decision-makers initially accept the hypothetical content during a low effort characterization stage. Interestingly, however, under high effort/elaboration conditions, while decision-makers are able to recognize that the content of the question was hypothetical, they are unable to recognize that it may be affecting their decision making. As a result, no correction occurs, and the bias is not attenuated. On the contrary, due to the increased consideration of, and resulting heightened accessibility of the hypothetical content caused by enhanced elaboration, the links between hypothetical content and behavior are strengthened. This in turn results in an even more biased decision process under enhanced elaboration.

From a practical perspective, we believe that these findings should be directly of interest to consumer and public policy researchers, to consumer-advocacy groups, and to federal agencies like the FTC. The implications for those performing consumer research involving the use of hypothetical questions are quite substantial. Specifically, our research substantiates the view among political analysts like Sabato and Simpson (1996) that the use of hypothetical questions in the guise of research, a technique that has come to be known in the political domain as push-polling, is effective at changing behavior. What should particularly concern consumer-advocacy groups and the FTC is that a traditional debiasing technique such as asking respondents to think in more depth about the question (see Arkes 1991 for a review of debiasing approaches) actually results in an increased bias in this case.

Further, there are a number of other consumer research domains in which

consumers are encouraged to engage in hypothetical thinking or reasoning–focus groups, conjoint tasks, and scenario analysis. This is particularly true in the new product domain. Researchers conducting focus groups at preliminary stages of product development will often ask participants to imagine (i.e., think hypothetically) using a new product in a certain way. They then probe and attempt to discover how the participants might feel about such a product. Similarly, conjoint tasks often involve asking consumers to imagine choices when making tradeoffs between options that are also often hypothetical. Finally, the use of analogies, scenarios, and stories as a means of improving decision making also involves the use of hypothetical thinking (see, e.g., Holyoak and Thagard 1997). It seems quite reasonable to speculate that just as hypothetical questions may have some contaminative mental byproducts so too may the use of hypothetical thought in other domains relevant to consumer research such as focus groups, conjoint analysis, and scenario analysis. These contaminative effects can become particularly problematic if the research methods are used to generate predictions about future behavior. After mental contamination due to hypothetical thinking, the behavior of the test sample will no longer reflect the actual behavior of consumers at large who are unlikely to engage in the types of hypothetical thinking that are embedded in the various research techniques. Our hope is that more research will be carried out on hypothetical questions with the goal of providing ways of inoculating individuals against the biasing effects of research techniques involving hypothetical thought.

Directions for Future Research

The magnitude of the preference shifts found in the two experiments were quite substantial–as high as 79 percentage points in experiment 1 and 40 percentage points in

experiment 2. These findings are not inconsistent with the magnitude of effects found in prior question-behavior research. For example, Sherman (1980) found that 31 percent (22 of 46) of participants asked about willingness to volunteer three hours for the American Cancer Society actually volunteered at a later time, while only 4 percent (two of 46) of their peers (not asked about willingness) volunteered. Thus, the act of asking participants to predict future behavior led to a substantial change in behavior (i.e. volunteer rates of 4% vs. 31%). Similarly, Morwitz et al. (1993) found that asking consumers an automobile purchase intent question led to increases in automobile purchasing of more than 30 percent. Considered in the context of results such as these, the magnitude of the hypothetical question impact on behavior may not be nearly as shocking. However, it is quite possible that other factors, unique to the procedures and contexts used in our research, may have contributed to the magnitude of the effects. For example, it is possible that the magnitude of the effects were a result of the experiments being conducted in very controlled environments. Specifically, in both experiments, respondents made their choices only a few minutes after they had been exposed to the hypothetical question, which, in turn, could have heightened the impact of hypothetical questions on subsequent behavior. Future research needs to examine the effects of hypothetical questions after a time delay to better reflect what often occurs in real-world voting and shopping situations.

Two possibilities arise when time delay is taken into consideration. First, our findings seem to indicate that hypothetical questions influence behavior by enhancing the accessibility of cognitions related to the content of such questions. Higgins (1996) argues that accessibility of activated cognitions tends to decline with the passage of time. This, in turn, suggests that the effects of hypothetical questions on behavior are likely to diminish as the time delay between exposure to such questions and the actual decision becomes

high. On the other hand, it is quite possible that, apart from changes in the accessibility of cognitions, hypothetical questions also affect preferences toward the target of such questions immediately after exposure. These preferences, in turn, could bias processes that occur when the decision is made at a later point in time (see, e.g., Russo, Meloy, and Medvec 1998 for the biasing effects of previously formed preferences; see also Kunda 1990 for arguments suggesting that prior opinions can lead to directional goals, which, in turn, could give rise to biased processes).

The size of the effects found in our research might have also resulted from the focus of the hypothetical questions that were used in the two experiments. In experiment 1, the hypothetical question focused on a political candidate and on corrupt practices, a belief that is sometimes stereotypic of politicians. It is quite possible that hypothetical questions are extremely effective at shifting preferences when the assertions are consistent with strong prior beliefs that people maintain about groups of individuals and products. In a sense, having the hypothetical question focus on stereotypic beliefs might provide a means of associating these beliefs with the target of such questions, thereby affecting the respondents' evaluations of and actions toward the target. This would not, however, explain why were the preference shifts so large in experiment 2, where the assertions were against prior beliefs about cake? It is a well known fact that vice products such as cake involve a constant conflict between approach and avoidance–the hedonic aspects of such products impelling the individual to consume; self-control impelling the individual to refrain from consuming (see, e.g., Loewenstein 1996; Wertenbroch 1999). It is quite possible that, in the case of vice products, hypothetical questions cause a breakdown in self-control, resulting in impulsive or compulsive choices. Therefore, it is also possible that if experiment 2 had been carried out with a non-vice product category (e.g., choosing between two computers) the pattern of results

may have been dampened. Future research needs examine the moderating role of the context (e.g., voting, choices involving vices as well as virtues) and of the focus of hypothetical questions (consistent vs. inconsistent with prior beliefs).

As indicated earlier, future research also needs to examine moderating factors that will diminish the effects of hypothetical questions on behavior. Knowledge of such factors is important from a public policy standpoint, given the non-conscious nature of these effects. One issue ripe for exploration is that of educating decision makers on the potentially biasing effects of answering hypothetical questions. It is possible that with a growing awareness of the biasing effects, individuals will be more motivated and able to correct for these biases, resulting in a decrease in the effectiveness of hypothetical questions.

Finally, we contributed to recent work on constructive mental processes that suggests that mental contamination can occur in unconscious and uncontrollable ways leading to errors and biases in judgments and behavior. Beyond exploring a new form of mental contamination we focused on the effects of hypothetical questions on choice rather than restricting our focus to memory or judgment effects, as has most previous research. Future research needs to delve deeper into the processes, and to factors other than asking hypothetical questions, that give rise to mental contamination. Examining these issues will provide researchers, as well as marketers, with rich insights into the unconscious side of the human brain and its effects on judgment and decision making.

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FIGURE 1

CHOICE AS A FUNCTION OF LEVEL-OF-ELABORATION AND INFORMATION-PRESENTATION (EXPERIMENT 1B)

FIGURE 2A

CHOICE AS A FUNCTION OF LEVEL-OF-ELABORATION AND INFORMATION RELEVANCE (EXPERIMENT 2)

FIGURE 2B

BELIEF-CAKE AS A FUNCTION OF LEVEL-OF-ELABORATION AND INFORMATION-RELEVANCE (EXPERIMENT 2)

FIGURE 1 – CHOICE AS A FUNCTION OF LEVEL-OF-ELABORATION AND INFORMATION-PRESENTATION (EXPERIMENT 1B)

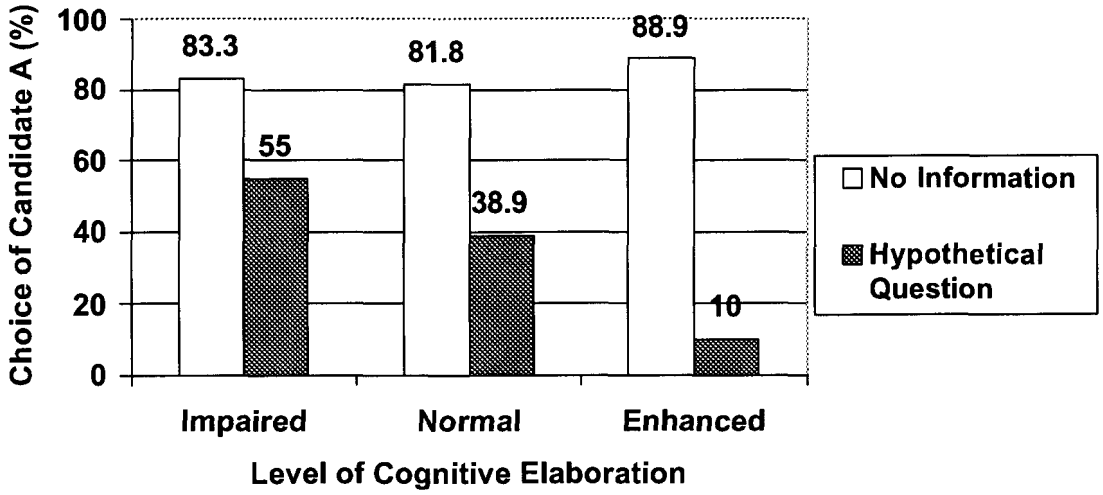

FIGURE 2A – CHOICE AS A FUNCTION OF LEVEL-OF-ELABORATION AND INFORMATION RELEVANCE (EXPERIMENT 2)

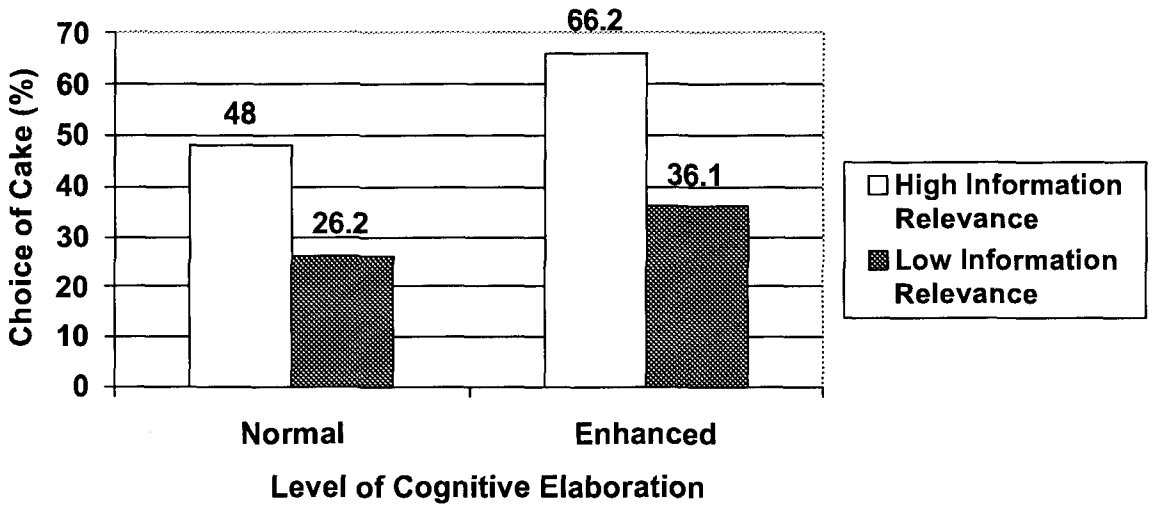

FIGURE 2B – BELIEF-CAKE AS A FUNCTION OF LEVEL-OF-ELABORATION AND INFORMATION-RELEVANCE (EXPERIMENT 2)